

WHAT IS CLAIMED IS:

1. A method of modulating abscisic acid signal transduction in a plant, the method comprising introducing into the plant a recombinant expression cassette comprising a promoter operably linked to an ABH1 polynucleotide that modulates ABA signal transduction in a plant; and
- (a) comprises a sequence at least about 70% identical to SEQ ID NO:1 or
- (b) that encodes an ABH1 polypeptide having a sequence at least about 70% identical to SEQ ID NO:2.
2. The method of claim 1, wherein the promoter is a tissue-specific promoter.
3. The method of claim 2, wherein the promoter preferentially directs expression in guard cells, thereby decreasing turgor pressure in guard cells in the plant.
4. The method of claim 3, wherein the promoter is a KAT1 promoter.
5. The method of claim 1, wherein the ABH1 polynucleotide is at least 80% identical to SEQ ID NO:1.
6. The method of claim 1, wherein the ABH1 polynucleotide has a sequence as shown in SEQ ID NO:1.
7. The method of claim 1, wherein the ABH1 polypeptide has a sequence at least 80% identical to SEQ ID NO:2.
8. The method of claim 1, wherein the ABH1 polypeptide has a sequence as shown in SEQ ID NO:2.
9. The method of claim 1, wherein the expression cassette is introduced into the plant through a sexual cross.
10. The method of claim 1, wherein the expression cassette is introduced into the plant using *Agrobacterium*.
11. An isolated nucleic acid molecule comprising an ABH1 polynucleotide that modulates ABA signal transduction in a plant; and
- (a) comprises a sequence at least about 70% identical to SEQ ID NO:1 or

4 (b) that encodes an ABH1 polypeptide having a sequence at least about
5 70% identical to SEQ ID NO:2.

1 12. The nucleic acid molecule of claim 11, wherein the ABH1
2 polynucleotide is at least 80% identical to SEQ ID NO:1.

1 13. The nucleic acid molecule of claim 11, wherein the ABH1
2 polynucleotide is has a sequence as shown in SEQ ID NO:1.

1 14. The nucleic acid molecule of claim 11, wherein the ABH1 polypeptide
2 has a sequence at least 80% identical to SEQ ID NO:2.

1 15. The nucleic acid molecule of claim 11, wherein the ABH1 polypeptide
2 has a sequence as shown in SEQ ID NO:2.

1 16. The nucleic acid molecule of claim 11, further comprising a promoter
2 operably linked to the ABH1 polynucleotide.

1 17. The nucleic acid molecule of claim 16, wherein the promoter is a
2 tissue-specific promoter.

1 18. The nucleic acid molecule of claim 17, wherein the promoter
2 preferentially directs expression in guard cells.

1 19. The nucleic acid molecule of claim 18, wherein the promoter is a
2 KAT1 promoter.

1 20. A transgenic plant cell comprising an a recombinant expression
2 cassette comprising a promoter operably linked to an ABH1 polynucleotide that modulates
3 ABA signal transduction in a plant; and

4 (a) comprises a sequence at least about 70% identical to SEQ ID NO:1 or

5 (b) that encodes an ABH1 polypeptide having a sequence at least about
6 70% identical to SEQ ID NO:2.

1 21. The transgenic plant cell of claim 20, wherein the promoter is a tissue-
2 specific promoter.

09382985-0614-01

- 1 22. The transgenic plant cell of claim 20, wherein the promoter
2 preferentially directs expression in guard cells.
- 1 23. The transgenic plant cell of claim 22, wherein the promoter is a KAT1
2 promoter.
- 1 24. The transgenic plant cell of claim 20, wherein the ABH1
2 polynucleotide is at least 80% identical to SEQ ID NO:1.
- 1 25. The transgenic plant cell of claim 20, wherein the ABH1
2 polynucleotide is has a sequence as shown in SEQ ID NO:1.
- 1 26. The transgenic plant cell of claim 20, wherein the ABH1 polypeptide
2 has a sequence at least 80% identical to SEQ ID NO:2.
- 1 27. The transgenic plant cell of claim 20, wherein the ABH1 polypeptide
2 has a sequence as shown in SEQ ID NO:2.

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B1

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C2